

WHAT IS CLAIMED IS:

1. A fluid ejector carriage assembly, comprising:
a thermally-conductive fluid ejector carriage device; and
a fluid ejector module in thermal contact with the thermally-conductive fluid ejector carriage device.
2. The fluid ejector carriage assembly of claim 1, wherein the thermally-conductive fluid ejector carriage device is molded from a polymer.
3. The fluid ejector carriage assembly of claim 2, wherein the polymer is a polymer material containing a base polymer and at least one thermally conductive filler material.
4. The fluid ejector carriage assembly of claim 3, wherein the at least one thermally-conductive filler material has a thermal conductivity greater than about 10 W/m°C.
5. The fluid ejector carriage assembly of claim 3, wherein the at least one thermally-conductive filler material has a thermal conductivity less than about 100 W/m°C.
6. The fluid ejector carriage assembly of claim 5, wherein the at least one thermally-conductive filler material has a thermal conductivity of greater than about 10 W/m°C.
7. The fluid ejector carriage assembly of claim 3, wherein the at least one thermally-conductive filler material is a graphite material.
8. The fluid ejector carriage assembly of claim 7, wherein the graphite material is formed using a petroleum pitch base material.
9. The fluid ejector carriage assembly of claim 3, wherein the at least one thermally-conductive filler material is a ceramic material.
10. The fluid ejector carriage assembly of claim 9, wherein the at least one ceramic material is at least one of boron nitride and aluminum nitride.
11. The fluid ejector carriage assembly of claim 2, wherein the polymer is at least one of liquid crystal polymer, polyphenylene sulfide and polysulfone.
12. The fluid ejector carriage assembly of claim 2, wherein the polymer is chemically resistant to ink.

13. The fluid ejector carriage assembly of claim 1, wherein the thermally-conductive fluid ejector carriage device and fluid ejector module are made of materials having similar coefficients of thermal expansion.

14. The fluid ejector carriage assembly of claim 1, wherein the contact between the thermally-conductive fluid ejector carriage device and the fluid ejector module is augmented with at least one compliant, thermally-conductive pad.

15. The fluid ejector carriage assembly of claim 1, wherein the contact between the thermally-conductive fluid ejector carriage device and the fluid ejector module is augmented with at least one thermally-conductive heat sink compound.

16. The fluid ejector carriage assembly of claim 1, wherein the contact between the thermally-conductive fluid ejector carriage device and the fluid ejector module comprises at least a temporary bond between the thermally-conductive fluid ejector carriage device and the fluid ejector module.

17. The fluid ejector carriage assembly of claim 1, wherein the contact between the thermally-conductive fluid ejector carriage device and the fluid ejector module is augmented with at least one mechanical device or structure.

18. The fluid ejector carriage assembly of claim 1, wherein the thermally-conductive fluid ejector carriage device further comprises a receiving area usable to receive a cartridge comprising a container that stores a fluid to be ejected by the fluid ejector module in contact with a fluid ejector module.

19. The fluid ejector carriage assembly of claim 18, wherein the container that stores the fluid is molded from a thermally-conductive material and the contact between the container that stores fluid and the fluid ejector module establishes a heat flow path for heat dissipation.

20. The fluid ejector carriage assembly of claim 19, wherein the contact between the container that stores fluid and the fluid ejector module is augmented with at least one compliant, thermally-conductive pad.

21. The fluid ejector carriage assembly of claim 19, wherein the contact between the container that stores fluid and the fluid ejector module is augmented with at least one thermally-conductive heat sink compound.

22. The fluid ejector carriage assembly of claim 19, wherein the contact between the container that stores fluid and the fluid ejector module comprises at

least a temporary bond between the container that stores fluid and the fluid ejector module.

23. The fluid ejector carriage assembly of claim 19, wherein the contact between the container that stores fluid and the fluid ejector module is augmented with at least one mechanical device or structure.

24. The fluid ejector carriage assembly of claim 1, wherein the thermally-conductive fluid ejector carriage device further comprises multiple receiving areas usable to receive multiple fluid ejector modules.

25. The fluid ejector carriage assembly of claim 24, wherein each receiving area is usable to receive a cartridge comprising a container that stores a fluid to be ejected by the fluid ejector module in contact with a fluid ejector module.

26. The fluid ejector carriage assembly of claim 1, wherein the thermally-conductive fluid ejector carriage device further comprises an integral molded heat sink.

27. The fluid ejector carriage assembly of claim 1, wherein a separate heat sink is mounted in contact with the thermally-conductive fluid ejector carriage device.

28. The fluid ejector carriage assembly of claim 27, wherein the contact between the thermally-conductive fluid ejector carriage device and the separately mounted heat sink is augmented with at least one compliant, thermally-conductive pad.

29. The fluid ejector carriage assembly of claim 27, wherein the contact between the thermally-conductive fluid ejector carriage device and the separately mounted heat sink is augmented with at least one thermally-conductive heat sink compound.

30. The fluid ejector carriage assembly of claim 27, wherein the contact between the thermally-conductive fluid ejector carriage device and the separately mounted heat sink comprises at least a temporary bond between the thermally-conductive fluid ejector carriage device and the separately mounted heat sink.

31. The fluid ejector carriage assembly of claim 27, wherein the contact between the thermally-conductive fluid ejector carriage device and the separately mounted heat sink is augmented with at least one mechanical device or structure.

32. A method of manufacturing a fluid ejector carriage assembly, comprising:
- mixing at least one thermally-conductive filler material with a polymer;
- and
- molding a thermally-conductive fluid ejector carriage device using the polymer material mixed with the at least one thermally-conductive filler material.
33. The method of claim 32, wherein the at least one filler material has a thermal conductivity greater than about 10 W/m°C.
34. The method of claim 32 wherein the at least one filler material has a thermal-conductivity less than about 100 W/m°C.
35. The method of claim 32, wherein the at least one filler material has a thermal conductivity of greater than about 10 W/m°C.
36. The method of claim 32, further comprising molding a heat sink integrally with the thermally-conductive polymer carriage device.
37. A method for dissipating heat from a thermal fluid ejector module, comprising:
- establishing a heat flow path from at least one thermal fluid ejector module through contact with a thermally-conductive polymer carriage device;
- operating at least one thermal fluid ejector module in contact with the thermally-conductive polymer carriage device in a manner that generates excess heat in the fluid ejector module; and
- transferring the excess heat from at least one thermal fluid ejector module to ambient air surrounding the thermally-conductive polymer carriage device through the heat flow path established by the contact between the fluid module and the thermally-conductive polymer carriage device.
38. The method of claim 37, further comprising establishing contact between the thermal fluid ejector module and the thermally-conductive polymer carriage device by force-fitting at least one thermal fluid ejector module into a suitably sized receiving area in the thermally-conductive polymer carriage device so that the fluid ejector module is exposed to a suitable thermally-conductive contact area on an internal face of the receiving area.
39. The method of claim 38, further comprising providing at least one receiving area that is suitably sized to accept at least one integral print cartridge

comprising a fluid ejector module assembly and a container that stores a fluid to be ejected by fluid ejector module.

40. The method of claim 38, wherein establishing the contact between the fluid ejector module and the thermally-conductive polymer carriage device further comprises forming at least a temporary bond between the fluid ejector module and the thermally-conductive polymer carriage device.

41. The method of claim 38, further comprising augmenting the contact between the fluid ejector module and the thermally-conductive polymer carriage device using at least one compliant, thermally-conductive pad.

42. The method of claim 38, further comprising augmenting the contact between the fluid ejector module and the thermally-conductive polymer carriage device using at least one thermally-conductive heat sink compound.

43. The method of claim 38, further comprising augmenting the contact between the fluid ejector module and the thermally-conductive polymer carriage device using at least one mechanical device or structure.

44. The method of claim 37, wherein establishing the heat flow path comprises establishing at least one heat flow path from the thermally-conductive polymer carriage device to at least one heat sink.

45. The method of claim 44, wherein establishing the at least one heat flow path from the thermally-conductive polymer carriage device to the at least one additional heat sink comprises integrally molding the at least one heat sink with the thermally-conductive polymer carriage device.

46. The method of claim 44, wherein establishing the at least one heat flow path from the thermally-conductive polymer carriage device to the at least one additional heat sink comprises mounting the at least one heat sink in contact with the thermally-conductive polymer carriage device.

47. The method of claim 46, wherein establishing the contact between the at least one heat sink and the thermally-conductive polymer carriage device further comprises forming at least a temporary bond between the at least one heat sink and the thermally-conductive polymer carriage device.

48. The method of claim 46, further comprising augmenting the contact between the at least one heat sink and the thermally-conductive polymer carriage device using at least one compliant, thermally-conductive pad.

49. The method of claim 46, further comprising augmenting the contact between the at least one heat sink and the thermally-conductive polymer carriage device using at least one thermally-conductive heat sink compound.

50. The method of claim 46, further comprising augmenting the contact between the at least one heat sink and the thermally-conductive polymer carriage device using at least one mechanical device or structure.